

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: S. Kawashima et al.
Serial No.: 09/937,255
Filed: September 24, 2001
FOR: REMOTE-CONTROL
TRANSMITTER AND METHOD
OF TESTING THE SAME

: Art Unit:
: Examiner:
: Box PCT
:

SUPPLEMENTAL PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

SIR:

Prior to examination, please amend the above application as follows:

IN THE DRAWINGS:

Please delete Figure 8.

IN THE CLAIMS:

Please replace claims 1-8 with the following amended claims:

- 1 1. (As Amended) A remote-control transmitter comprising:
 - 2 a plurality of keys, each of said keys closing a respective switch contact
 - 3 upon being depressed;
 - 4 a microcomputer coupled to said keys for generating a respective signal in
 - 5 response to each of said keys being depressed; and
 - 6 a transmission circuit coupled to said microcomputer for transmitting said
 - 7 signal;
- 8 2. said microcomputer being shifted to a test mode upon a predetermined at
- 9 least one key of said plurality of keys being depressed,

10 said microcomputer storing a status of at least one of said plurality of keys
11 upon said test mode being initiated, and

12 said microcomputer transferring said at least one status to said transmission
13 circuit.

1 2. (As Amended) The remote-control transmitter according to claim 1,
2 wherein said transmission circuit transmits said signal and said status as one of an
3 infrared ray signal and a radio signal.

1 3. (As Amended) The remote-control transmitter according to claim 1,
2 wherein said status additionally carries an identification signal that identifies said
3 microcomputer.

1 4. (As Amended) A remote-control transmitter according to claim 3,
2 wherein said transmission circuit transmits said signal and said status as one of an
3 infrared ray signal and a radio signal.

1 5. (As Amended) A method of testing a remote-control transmitter, said
2 method comprising the steps of:

3 providing said remote-control transmitter which includes: a plurality of
4 keys, each of said keys closing a respective switch contact upon being depressed, a
5 microcomputer coupled to said keys for generating a respective signal in response
6 to each of said keys being depressed, and a transmission circuit coupled to said
7 microcomputer for transmitting said signal;

8 shifting said microcomputer to a test mode upon a predetermined key of
9 said plurality of keys being depressed;

10 storing a status of at least one of said plurality of keys upon said test mode
11 being initiated;

12 transferring said status to said transmission circuit; and

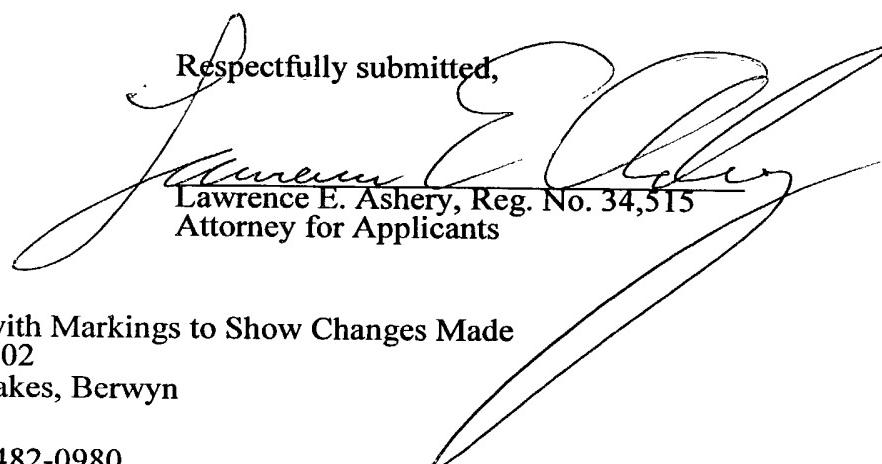
13 determining said status of at least one of said plurality of keys.

1 6. (As Amended) The method of testing the remote-control transmitter
2 according to claim 5, wherein the transmission circuit transmits said status and
3 said signal as one of an infrared ray signal and a radio signal.

1 7. (As Amended) The method of testing the remote-control transmitter
2 according to claim 5, wherein said status additionally carries an identification
3 signal that identifies the microcomputer.

1 8. (As Amended) A method of testing a remote-control transmitter
2 according to claim 7, wherein the transmission circuit transmits said status and
3 said signal as one of an infrared ray signal and a radio signal.

Respectfully submitted,


Lawrence E. Ashery, Reg. No. 34,515
Attorney for Applicants

CS/ebf/lm

Enclosure: Version with Markings to Show Changes Made

Dated: January 22, 2002

Suite 301, One Westlakes, Berwyn

P.O. Box 980

Valley Forge, PA 19482-0980

(610) 407-0700

The Assistant Commissioner for Patents is
hereby authorized to charge payment to Deposit
Account No. 18-0350 of any fees associated
with this communication.

EXPRESS MAIL Mailing Label Number: EL 923264022 US
Date of Deposit: January 22, 2002

I hereby certify that this paper and fee are being deposited, under 37 C.F.R. § 1.10 and with sufficient postage,
using the "Express Mail Post Office to Addressee" service of the United States Postal Service on the date
indicated above and that the deposit is addressed to the Assistant Commissioner for Patents, Washington,
D.C. 20231.



Kathleen Libby

VERSION WITH MARKINGS TO SHOW CHANGES MADE**CLAIMS:**

- 1 1. (As Amended) A remote-control transmitter comprising:
 - 2 a plurality of keys, each of said keys closing a respective switch contact[s corresponding thereto when pressed down] upon being depressed;
 - 4 a microcomputer coupled to said keys for generating a respective [remote-control] signal in response to [pressing] each of said keys being depressed; and
 - 6 a transmission circuit coupled to said microcomputer for transmitting said [a remote-control] signal; [,]
 - 8 [wherein the microcomputer is operable to:]
 - 9 said microcomputer being [be] shifted to a test mode [when a specific key of said keys is pressed] upon a predetermined at least one key of said plurality of keys being depressed, [:]
 - 12 [store an opening-closing data of a key of the keys, said key closed after the test mode is] said microcomputer storing a status of at least one of said plurality of keys upon said test mode being initiated, [:] and
 - 15 [transfer the opening-closing data as a remote-control test signal] said microcomputer transferring said at least one status to said transmission circuit [at once].
- 1 2. (As Amended) The remote-control transmitter according to claim 1,
2 wherein said transmission circuit transmits said signal and said status [the remote-

3 control signal and the remote-control test signal] as one of an infrared ray signal
4 and a radio signal.

1 3. (As Amended) The remote-control transmitter according to claim 1,
2 wherein [the remote-control test signal] said status additionally carries an
3 identification signal [of] that identifies said microcomputer.

1 4. (As Amended) A remote-control transmitter according to claim 3,
2 wherein said transmission circuit transmits [the remote-control signal and the
3 remote-control test signal] said signal and said status as one of an infrared ray
4 signal and a radio signal.

1 5. (As Amended) A method of testing a remote-control transmitter, said
2 method comprising the steps of: [which comprises:]

3 providing said remote-control transmitter which includes: a plurality of
4 keys, each of said keys closing a respective switch contact[s] upon being
5 depressed, [corresponding thereto when pressed down;] a microcomputer coupled
6 to [the] said keys for generating a respective [remote-control] signal in response to
7 [pressing the] each of said keys[;] being depressed, and a transmission circuit
8 coupled to [the] said microcomputer for transmitting [the remote-control] said
9 signal[, comprising:];

10 shifting [the] said microcomputer to a test mode upon a predetermined key
11 of said plurality of keys being depressed [when a specific key of the keys is
12 pressed down];

13 storing [an opening-closing data of a key of the keys, said key closed after
14 the test mode is] a status of at least one of said plurality of keys upon said test
15 mode being initiated;

16 transferring [the opening-closing data as a remote-control test signal to the]
17 said status to said transmission circuit [at once]; and

18 [examining the remote-control test signal] determining said status of at least
19 one of said plurality of keys.

1 6. (As Amended) The method of testing the remote-control transmitter
2 according to claim 5, wherein the transmission circuit transmits [the remote-
3 control signal and the remote-control test] said status and said signal as one of an
4 infrared ray signal and a radio signal.

1 7. (As Amended) The method of testing the remote-control transmitter
2 according to claim 5, wherein [the remote-control test signal] said status
3 additionally carries an identification signal that identifies [of] the microcomputer.

1 8. (As Amended) A method of testing a remote-control transmitter
2 according to claim 7, wherein the transmission circuit transmits [the remote-
3 control signal and the remote-control test] said status and said signal as one of an
4 infrared ray signal and a radio signal.